

Drug	Type of bacteria acting on	Dose & phases	Mode of action	Half-life	Reduce dose in		Penetration of CSF	Elimination	Adverse effects
					Renal impairment	Liver impairment			
Isoniazid	Continuously growing bacteria	5 mg – initial and cont. phases	Bactericidal, inhibits synthesis of mycolic acid (cell wall component)	0.5-1.5	No	Yes	About 20% serum levels (more with inflamed meninges)	Acetylated in liver. Metabolites (inactive) excreted in urine	Hepatitis, peripheral neuropathy (pyridoxine is given), drowsiness, skin rashes
Rifampicin	Semi-dormant spurts of metabolism	10 mg – initial and cont. phases	Bactericidal, inhibits DNA-dependent RNA polymerase	1.5-5	No	Yes	About 30% of serum levels with inflamed meninges	Extensive first-pass effect. Partially active metabolite formed by deacetylation in liver undergoes enterohepatic recirculation. 60-50% excreted in feces; 10-15% unchanged drug in urine	Hepatitis, thrombocytopenia (red discoloration of body secretions), skin rashes, flu-like syndrome, acute renal failure
Streptomycin	-	15 mg – 10 mg (if >60 yrs or < 50 kg) – initial phase only	Bactericidal, inhibits bacterial protein synthesis	5	Yes	No	Little	Renal elimination of unchanged drug	Ototoxicity, nephrotoxicity, contraindicated in pregnancy
Ethambutol	-	25 mg – initial phase only	Bacteriostatic, inhibits synthesis of arabinoglycan	4-6	Yes	No	Up to 54% serum levels with inflamed meninges	20% as inactive metabolites, 50% excreted unchanged in urine, 20% in feces	Visual impairments
Pyrazinamide	Semi-dormant acid inhibition	35 mg – initial phase only	Bactericidal (weak), disrupts mycobacterial cell membrane transport functions	12-24	Yes	Yes	Up to 100% serum levels with inflamed meninges	Metabolized by liver, its clearance is reduced in renal failure	Hepatitis, hyperuricemia, arthralgia, skin rashes